# “Impact study of PEU Approach in 4 CREEs in the first phase of the programme”

# Executive Summary

# Helvetas along with NACEUN and GIZ EnDev implemented PEU project under approach of building capacity of CREE and also creating business service providers that could provide all required support to start the business for the potential entrepreneurs in the project area. The monitoring of the first phase of this projects shows that awareness level among the CREE members to promote PEU activities to increase their revenue and keep the entity financially sustainable was very impressive. All four CREE executive members seems to have good awareness level and motivation towards increasing the business and increase revenue through productive use activities. Business service providers which was supported through capacity building to provide service as business in the project area found to be not very successful and active after the project is phased out. However, majority of the persons trained with the skill development trainings on various potential businesses started the business and some (two business among the four surveyed CREEs) of them even scaled up the business further after the project is phased out. CREE members are facing challenge with the delayed services being provided from NEA for the regular supply of electricity and also to expand the electrification process through upgrading of the distribution system. Besides, some CREE also faced the challenge to get the big business consumers for their entity as NEA was reluctant to give such business to CREE though policy have clearly mentioned that any business up to 50kVA could be managed by the CREE. Awareness and access to innovative technology, access to finance, migration of the youth and male members are various challenges to promote the electricity-based business for CREE. However, with the improving reliability of electricity since last two years CREE members are more hopeful for increasing the electricity business and also increasing the household demand through various technology especially electricity based cooking in the coming years. Skill development trainings, awareness on various technology and easy access to credit financing are the major areas to be looked on for the promotion of such business among the CREE. Since majority of people’s livelihood depend on agro business, application of electricity along the agriculture value chain for production, processing, harvesting, storing are key areas for further PEU promotional activities.

# Background

Helvetas in partnership with GIZ and NACEUN have implemented PEU promotion project in 8 communities rural electrification entity in first phase of the Programme from 2014-2016. Under this approach EnDev have supported the entity for the capacity building to aware the CREE about the importance of PEU promotion for the sustainability of entity and also building their capacity to prepare business plan. Whereas, Helvetas has supported to develop the business service providers through providing various trainings so that they could provide any kind of support including the market linkage, financial linkage, awareness and access to technology and prepare business plan. Helvetas in cooperation with various other relevant organizations provided skill development trainings to establish business with having access to electricity. NACEUN was implementing the project at the CREE level coordinating the activities supported by EnDev, Helvetas and CREE and also provided the business plan preparation workshop and facilitated various other meetings and workshops with the CREE and other line agencies in the district.

# Objective

The main objective of this study is to find out the impact of PEU promotion project on supporting the beneficiaries to establish various business and to increase the revenue of the CREE through electricity sale for the business purpose.

# Methodology

The study was conducted in four CREES, 3 from Banke district and 1 from western region in Shyangja district. Structured questionnaire was used to collect the information for the study. Questionnaire was prepared to collect the information from the CREE members, Business Service Providers and the entrepreneurs.

# Existing situation

## 4.1Electricity use pattern

Mainly the electricity use in CREEs could be categorized under the domestic purpose, industrial purpose and irrigation purpose.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Electricity use | Khajura | Naubasta | Shyangja | Kachanapur |
| Domestic | 84% | 88% | 89% | 83% |
| Industrial | 12% | 9% | 5% | 16% |
| Irrigation | 4% | 3% | 6% | 1% |

The table above shows that more than 80% of electricity is being consumed for household lighting purpose and very less for industrial and agriculture sector. As the table below presents majority of households have meter capacity of only 5A.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Meters | Khajura | Naubasta | Shyangja | Kachanapur |
| 5A | 86% | 99% | 98% | 91% |
| 10A | 12% | 0.5% | 1% | 8% |
| 15A | 1% | 0.1% | 0% | 1% |
| 3 phase | 1% | 0.4% | 1% | 0% |

## 4.2 Revenue of the entity

As the graph below present except one CREE in Shyangja all other three CREEs are profitable. Some CREE have also used the profit to build their own office and equipment. But more than 90% of the income is derived from the electricity use for domestic purpose.

The electricity sale income of the CREEs are also in increasing trend with the extension and increased no of households.

## 4.3 Business plan status

Among four CREEs visited it is found that only one have reviewed and revised the business plan for upcoming years. All three other CREEs prepared the business plan and followed it up only within the project duration. On discussing with the CREE members, it is found that their level of awareness regarding the importance of PEU promotion to increase the revenue of the entity is very good. And some of them area trying to have new business and extend the electrification and upgrade the transformer capacity to increase the revenue of the entity.

## 4.4Status of the business supported

The table below presents the status of the business supported by the project;

From the project in the 4 CREEs under surveyed it is found that 22 different business were set up which were supported through trainings among which only 4 business are not into operation at the moment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SN | Name of CREE | Type of support | Status of business | Remarks |
| 1 | **Khajura Sainik** | | | |
|  | Mobile repair and maintenance | Training | Operating |  |
|  | Photography | Training | Operating |  |
|  | Electrical equipment supplying shop | Training | Operating | The entrepreneur has scaled up his business |
|  | Poultry Farm | training | Operating |  |
|  | Sewing | training | Not operating | Potential entrepreneur mentioned that training level was not enough to run the business |
|  | Beauty Parlor | training | Operating |  |
| 2 | **Naubasta** | | | |
|  | incense industry | training | Operation |  |
|  | Motor rewinding industry | training | Operation |  |
|  | Sewing | training and motor to add provision for electricity based sewing machine | Not operation | The entrepreneur switched back to mechanical based sewing machine as she did not see the sufficient market |
|  | Poultry farming | Training | Operation | Poultry farming have upscale her business |
|  | Charcoal production | Training | Not in operation | The machine was not as efficient as expected and produce very less charcoal with great effort which was not worth as it also has negative impact on health |
| 3 | **Shyangja** | | | |
|  | Bee keeping | Training | Operating |  |
|  | Poultry farming | Training | Operating |  |
|  | Carpentry | Training | Operating |  |
| 4 | **Kachanapur** | | | |
|  | Sewing (3) | Training | Operation |  |
|  | Mobile repair and maintenance | Training | Operation |  |
|  | Duna Tapari (plate) making | Training | Not in operation | Lack of demand |
|  | Poultry farming | Training | Operation | business increasing among the community |
|  | Carpentry | Training | Operation |  |

## 4.5 Business Service Provider

In all four CREEs business service providers are found to be inactive after the project is phased out. The reason behind this is mainly due to the social cultural behavior present in rural areas where everyone shares the resources and knowledge. Hence, monetizing such services by the trainees and trainers are not practiced, as trainers are hesitant to charge a fee for their service and trainees are unware of bearing monetary cost for the service provided. Service providers sometime are providing the support giving the people information about the potential business, linkages and help them to prepare a business plan not as business but as a social service and help. Besides as per programme approach the business service providers are expected to be paid from the CREE from the income generated through the PEU promotion, but none of the CREE did so or ordered the SP.

# Findings

CREE members also mentioned that they can have more PEU activities if they could be provided with various skill development trainings. CREE members also suggested for refresher or advanced training to the entrepreneurs who are running their business with the training support from the project.

# Challenges

* In all CREEs the members mentioned that they are not happy with the services provided from NEA regarding the maintenance and transformer and meter availability. They expressed that NEA is not behaving fairly as they serve their own customer and CREE have to depend on them for many services.
* Policy level agreement with NEA not implemented and NEA seems to be very reluctant to give the big business to CREE.
* CREE members also mentioned that they are facing challenge to get the benefit/support from municipality. Rural municipalities tend to put community rural electrification out of their scope of work and not in their mandate. There is lack of coordination between the CREE and the municipality because of the political alliance of the elected representative opposing the political inclination of the CREE members. Because of this CREEs are facing problem to get enough support from the municipality level and municipality seems to be less responsive and less ownership towards CREE.
* One of the challenge CREEs in Banke district is facing to promote PEU activities to get access to bigger markets is open boarder to India. As cost wise they are not being able to compete with the Indian products and value addition/services required to enter those markets is not present. E.g. Poultry farming, carpentry whose products are only locally consumed if they have to reach bigger markets in nearby town, they cannot compete qualitatively and quantitatively.
* CREE members also mentioned that there is no economic development plan from the local government that could support the electricity-based business. There are some facilities on agriculture production and livelihood but that is also not fairly distributed.
* Lack of capital and financing mechanisms are the major challenge faced by potential local entrepreneurs as they cannot come up with high upfront cost to establish and run the business. Taking loan from the financial institution is very complicated and some institution even not interested to take collateral as they are located in remote areas.
* Very less electricity is being used in the agriculture sector where as majority of households depends on agriculture for their livelihood. Agriculture value chains still depend on manual labor and are petroleum based.
* Migration of youth and male members for employment opportunities to big cities is also major challenge for active promotion of PEU. However, from women empowerment perspective this provides opportunities for women to actively take part in local economy from business startups, employment and decision making process.
* BSPs were not located in the vicinity of the local communities, so logistics for arranging the trainings/workshop for potential entrepreneurs were costly.

# 7.Conclusions

* It is seen that project objective to increase awareness level of CREE members to promote PEU for increasing revenue have been successful and all CREE members found to be very much motivated towards increasing their business.
* Business plan preparation and building capacity of CREE to prepare business plan with an objective that CREE member will be preparing their own business plan and monitor the business plan activities was not very successful after the project is phased out.
* Providing skill development training was to somewhat successful as more than 50% of the trained persons are operating the business and some of them even scaled up the business.
* Training business service provider to provide service as business was not successful however it was useful to disseminate the knowledge further to other potential entrepreneurs.

# Recommendations

* NACEUN recommended to advocate for subsidy for farmer for electricity-based irrigation as other customer of NEA are getting.
* NACEUN recommended to advocate for the CREEs right to provide service to larger business consumers (<50kVA) within their network area as suggested in the policy.
* Skill development training on electricity-based business will help to promote the electricity-based business in these area as there seems to be no training providing organizations in the locality.
* Awareness raising and capacity development activities to be planned for the better coordination between the local government and CREE and institutionalize the CREE activities under the local government for increasing their ownership towards such electrification projects.
* Access to business services like financial access, market access, innovative technologies are very important to upscale the approach further.
* Considering sustainability of the existing and new business, access to bigger markets there is needed to promote value chain concept such as GIZ value chain concept. This model entails value addition or service linkage to value addition chain for local products so that they can compete in the bigger markets. For e.g: poultry sector is specifically successful in these areas due to ease of rearing, less manpower, less investments & final product requiring little to no value addition. This supply chain is directly linked by wholesaler to bigger markets in Kathmandu. Whereas, existing furniture and carpentry businesses profitability is saturated after fulfillment of needs of the local market. Hence, this capping of the profits hampers the sustainability in the long run and there is a need to integrate value addition concept to compete in the bigger markets.
* Switching to electricity for production, processing, harvesting, storing are the potential areas for PEU promotion and opportunity to commercialize the agriculture business.

Further recommendations

* Beside productive use and small or medium scale business it is found during the study that there is opportunity for increased household consumption through various appliances like rice cooker and electric cook stoves for cooking purpose. However, awareness on the use of electric cooking will be required to encourage the household to use electricity for cooking than LPG gas. Awareness will be required not only to motivate for electric cooking but also about the required technical upgradation and required investments. Also capacity building of the consumer to compare the cooking energy cost from different sources and also investment vs return to switch to electricity based cooking.